Curriculum Vitae

Full Name	Dr. Trilok Chandra Upadhyay		
Designation	Professor		
Department	Physics		
Campus	Srinagar		
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Education Qualification	M.Sc. (Physics) Garhwal University 1985 D.Phil. (Physics) HNB Garhwal University 1992		
Teaching Experience	33 Years	**Research Experience**	33 Years

Administrative Experience-

Worked as: **(i)** Assistant Dean Student Welfare
(ii) Campus Head- Physics, Srinagar Campus

Worked as: Head & Convener- Physics

D.Phil./ Ph.D. Guidance-

(1) Scholars Awarded = 19 (2* with Prof. B.S. Semwal)
(2) Thesis Submitted = 01
(3) Registered (working) = 01

Book Authored: -

Introduction to Modern Physics (Anmol Publication New Delhi, 1999)

Chapter of Book Written: -

'General Introduction to Ferroelectrics'' (M.I. Khan & T.C. Upadhyay), Intechopen (2021), DOI-

(**https://doc.doi.org/10.572/intechopen97720.**)

Book Edited: -

Elementary Solid-State Physics, UOU, Haldwani-2018, Bsc PH 203 (Authors- Dr. Madan Singh, Dr.Mahipal Singh, Dr. Girish Chandra)

Research Papers Published in Journals from 2017 onwards.

1. Study of ferroelectric mode frequency, dielectric constant and loss tangent in TGS Crystal (N. Kohli & T.C. Upadhyay), J. of Pure, Applied & Industrial Phys., Bhopal, 7(1) 10-17 (2017)
2. Thermal variation of vibration & frequency, dielectric constant and loss tangent in TGSe crystal (P.C. Khanduri & T.C. Upadhyay), J. of Pure, App & Ind. Phys, 7(2), 29-31 (2017)
3. Effect of electric field on dielectric constant, loss tangent in ADP crystal (Deepak Joshi & T.C. Upadhyay), Chem. Sci. Trans., 6(2), 288-292 (2017).
4. Effect of electric field on ferroelectric and dielectric properties of Rochelle salt crystal (K.P. Semwal & T.C. Upadhyay), Chem. Sci. Trans., 6(3), 466-472.
5. Study of ferroelectric phase transition and spontaneous polarisation in lead hydrogen phosphate type crystals (S. Gairola & T.C. Upadhyay), J. of Pure Applied and Industrial Physics, Bhopal, 7(4), 149-155 (2017). ISSN 0976-5727 9319
6. Dependence of dielectric constant and loss tangent on electric field in antiferroelectric squaric acid crystal (P.C. Khanduri and T.C Upadhyay), J. of Metall. & Mat. Sci. 58(4) pp 213- 220 (2016).
7. Temperature dependence of soft mode frequency, dielectric constant and loss tangent of Rochellesalt crystal (Aanchal Rawat & T.C Upadhyay), J. of Pure, Appl. & Ind. Phys. 7(5) 184-191 (2017)

8. Temperature dependence of soft mode frequency, dielectric constant and loss tangent in Ammonium. iron alum (Arvind Kumar Rawat, Aanchal Rawal and T.C. Upadhyay), Ind. J. Pure &Appl. Phys. 55,683- (2017)
9. Study of ferroelectric lead mono- hydrogen phosphate type crystals (Aanchal Rawat & T.C. Upadhyay), Int'l J. Mod. Phys. B 31, 175026-1 -11, 2017.
10. Study of Dielectric constant and loss tangent in KH_2PO_4 crystal (Anubhuti Mamgain & T.C. Upadhyay), J. of Metallurgy & Mat. Sci., CSIR, lab, Jamshedpur, Vol 59 Issue 2 pp 59-66 (2017) ISSN0972-4257.472)
11. Temperature dependence of soft mode frequency, dielectric constant and loss tangent of deuterated Rochelle salt crystal. (Aanchal Rawat, T.C. Upadhyay) Ind. J. Pure Appl. Phys. 57,144-146 (2019)
12. Dynamical disorder of LHP influence of electric field (M. Joshi and T.C. Upadhyay), J. Science& Technological Researches, Vol 11, No 4. Oct-Dec (2017) e-ISSN-2456-7701 (Published, 10/1/2017.
13. Temperature dependence of soft mode frequency, dielectric constant and loss tangent of deuterated Rochelle salt (Aanchal Rawat & T.C. Upadhyay), Ind. J. Pure & Appl. Phys., 57, 144- 146(2619)
14. Theoretical study of Dielectric behaviors of CsH_2PO4 crystal (Naveen Kohli & T.C. Upadhyay) Int'l J. Enverging Techno. & Adv. Engg. Vol 7 Issue 7 (July 2017), pp 416-420.
15. Changes in ferroelectric properties of MASD alum along with temperature by using PLCM model (Anubhuti Mamgain & T.C. Upadhyay), J. of Mountain Research, 14(2), 37-45 (2019).
16. Phase transition thermal dependence. of ferroelectric and dielectric properties in H-bonded $PbHPO_4$ (LHP) crystal (Muzaffar Iqbal Khan and T.C Upadhyay), Appl. Physics A, 126, 881 (2020)
17. Investigation of some temperature dependent ferroelectric properties of RDP crystal using PLCM model (Pawan Singh, Muzaffar Iqbal Khan, T.C. Upadhyay), Appl. Innov. Res. Vol. 2, pp 213-216 (2020)
18. Theoretical Investigation of Structural phase transition and microwave dielectric properties in TGS crystal (Muzaffar Iqbal Khan, Pawan Singh & T.C. Upadhyay), App. Innov. Res. (NISCAIR),1, 208-212, 2020.
19. Temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent in KDP crystal (Pawan Singh & T.C. Upadhyay), Materials Today Proceedings, 28, 146-148(2020).
20. Theoretical investigation of temperature and frequency dependent ferroelectric properties is R.S. crystal (Muzaffar Iqbal Khan & T.C. Upadhyay), Materials Today Proceedings, 28, 19-23 (2020)
21. Study of phase transition in Rochelle salt crystal (Muzaffar Iqbal Khan & T.C Upadhyay) Appl. Innov. Res. (NISCAIR), Vol. 2, pp 28 31 (2020),
22. Study of ferroelectric and dielectric properties of KDP crystal (Pawan Singh & T.C Upadhyay)by Appl. Innov. Res. (NISCAIR), Vol. 2, pp 32-35 (2020).
23. Theoretical Investigation of Cochran's mode frequency, and electrical permittivity of KDA crystal by using Zubarev's Green's function technique (Kuldeep Kumar & T.C. Upadhyay), Materials Today Proceedings (Elsevier), 49,2360- 2364(2622)
24. Theoretical investigation. of ferroelectric phase transition and tangent delta in CDA crystal. (Kuldeep Kumar & T.C. Upadhyay), Materials Today Proceedings (Elsevier), 49, 2345-2351 (2022).
25. Phase transition in H-bonded deuterated Rochelle salt (DRS) crystal (Muzaffar Iqbal Khan &T.C. Upadhyay), The European Physical Journal Plus (EPJP), 136(1), 1-14 (2021)
26. Theoretical study of temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent properties in hydrogen bonded Triglycine Sulphate crystal (TGS), (Muzaffar Iqbal Khan & T.C. Upadhyay), AIP Conference Proceedings, 2220, 040040 (2020). (https://doi.org/10.1063/5.001141).
27. Phenomenological explanation of spontaneous polarization. and onset ferroelectric phase transition in RbH_2ASO_4 crystal (Kuldeep Kumar, T.C. Upadhyay & A. Joshi), J. Phys. Conf series, IOP. Publishing 2070, 012059 (2021)
28. Investigation of spontaneous polarisation and phase transition Phenomenon in KH_2PO_4 type crystals by Green's function approach (Kuldeep Kumar and T.C. Upadhyay), Journal of Low Temp. Phys. (Springer), 2022. (https://doi.org/10.1007/s10909-022-02714-y)
29. Study of ferroelectric phenomena and other related properties in $NaKC_4H_4O_6.6H_2O$ Crystal (Muzaffar Iqbal Khan and T.C. Upadhyay), The European Physical Journal D 75;211 (2021)
30. Phase transition study of thermal dependence of soft mode frequency, dielectric constant and loss tangent properties in CDP and DCDP crystals (Muzaffar Iqbal Khan & T.C. Upadhyay) J. Low Temp. Phys. 203, 401-418 (2021).
31. Investigation of KDP and RDP crystals dielectric properties by Green's function technique (Pawan Singh, T.C. Upadhyay & M.I. Khan), AIP Proceedings, 2357,020002 (2022). (https://doi.org/10.1063/5.0080889)

32. First order ferroelectric phase transition phenomena in alkali phosphate crystal by using Green's Function approach (Kuldeep Kumar and T.C Upadhyay), Materials Today Proceedings, 66, (4) 2541- 2546 (2022).
33. Temperature dependence of dielectric properties in Potassium dihydrogen arsenate crystal (Pawan Singh, T.C. Upadhyay & Muzaffar Iqbal Khan), Materials Today Proceedings (Elsevier), 2021, Volume46, Part 20, Pages 10698-10701. (https://doi.org/10.1016/j.matpr.2021.01.453)
34. Dielectric properties of hydrogen bonded CDP type ferroelectric crystals (Muzaffar Iqbal Khan, Pawan Singh. & T.C. Upadhyay), Ferroelectrics 587, 198-206 (2022).
35. Study of ferroelectric Properties of RDA crystal (P Singh, T.C Upadhyay, M.I. Khan & s Kashyap), J. Mountain Research, 16 (2), 245-251 (2021).
36. Investigation of KDP and RDP crystal: Dielectric properties by modified Hamiltonian and Green's function technique (Pawan Singh, T.C. Upadhyay & Muzaffar Iqbal Khan), AIP Proceedings, 2357, 020002-1-020002-6.
37. Ferroelectric effect investigation in some lead hydrogen phosphate type crystals (Mayank Joshi, B.K.Kandpal & T.C. Upadhyay), J. of Mountain Res., 16(2), Special Issue, 211-220 (2021).
38. Phase transition dielectric properties in order-disorder antiferroelectric $NH_4(H_2PO_4)$ (ADP) crystal (Muzaffar Iqbal Khan, Riya Upadhyay, Km Dhooma, Majahid UL Islam, Rayees Ahmad Zargar, FerozAhmad Mir, Pawan Singh, Trilok Chandra Upadhyay), Computational Condensed Matter (Elsevier), 2023. (https://doi.org/10.1016/j.cocom.2022.e00780)
39. Dielectric properties of ammonium iron sulphate-dodecahydrate alum crystal (Muzaffar Iqbal Khan,Riya Upadhyay, Rayees Ahmad Zargar, Majahid UL Islam, Feroz Ahmad Mir, Trilok Chandra Upadhyay), Material Plus, 2022. (https://doi.org/10.37256/mp01010005)
40. Dielectric properties of ferroelectric methylammonium aluminium sulphate alum (MASD) crystal (Muzaffar Iqbal Khan, Riya Upadhyay, Rayees Ahmad Zargar, Pawan Singh, Trilok Chandra Upadhyay), Computational Condensed Matter (Elsevier), 2022. (http://doi.org/10.1016/j.cocom.2022.e00768)
41. Explanation of onset Ferroelectric transition and anomalous tangent delta in H-bonded RDP crystal (Kuldeep Kumar & T.C. Upadhyay), J. of Mountain Res., 2, 39-47 (2021).
42. Thermal dependence of soft mode frequency, dielectric constant, and tangent loss in lead hydrogen phosphate (LHP) crystal (Nitin Bahuguna, Kuldeep Kumar & Trilok Chandra Upadhyay), Materials Today Proceedings (Elsevier), 2023. (https://doi.org/10.1016/j.matpr.2023.01.295)

Research Papers presented at Seminars/ Conferences from 2017 onwards

1. Dielectric properties of order-disorder ferroelectric crystals (**Aanchal Rawat** & T.C. Upadhyay), 11th Uttarakhand state Sci. & Techno. Congress, 2016-17, March 02-04(2017), UCOST, D. Dun (Jhajra), p 236.
2. Dielectric behaviour of some ferroelectric and antiferroelectric crystals (**Prabhat Chandra Khanduri** & T.C. Upadhyay), 11th Uttarakhand state Sci. & Techno. Congress, 2016-17, March 02-04(2017), UCOST, D. Dun (Jhajra), p 239.
3. Study of ferroelectric phase transitions in some crystals (**Anubhuti Mamgain** & T.C. Upadhyay), 11th Uttarakhand state Sci. & Techno. Congress, 2016-17, March 02-04(2017), UCOST, D. Dun (Jhajra), p 211.
4. Ferroelectric properties of hydrogen bonded crystals (**Deepali Raturi** & T.C. Upadhyay) 11th Uttarakhand state Sci. & Techno. Congress, 2016-17, March 02-04(2017), UCOST, D. Dun (Jhajra).
5. Ferroelectric phase transition in hydrogen bonded crystals (**Deepali Raturi** & T.C. Upadhyay), Paper presented at Nat'l conf. on Adv. in Sci. & Techn., March 24-25(2017), Indian Military Academy, Dehradun.
6. Dielectric behaviour of some ferroelectric crystals (**Prabhat Chandra Khanduri** & T.C. Upadhyay), Paper presented at Nat'l conf. on Adv. in Sci. & Techn., March 24-25(2017), Indian Military Academy, Dehradun.
7. Ferroelectric phase transition and dielectric properties of PbHAsO4 crystal (**Aanchal Rawat** & T.C. Upadhyay), Paper presented at Nat'l conf. on Adv. in Sci. & Techn., March 24-25(2017), Indian Military Academy, Dehradun.
8. Study of phase transition and dielectric properties of some ferroelectric and antiferroelectric crystals (**Naveen Kohli** & T.C. Upadhyay), Paper presented at Nat'l conf. on Adv. in Sci. & Techn., March 24-25(2017), Indian Military Academy, Dehradun.
9. Study of dielectric phase transitions in some ferroelectric crystals (**Anubhuti Mamgain** & T.C.

Upadhyay), Paper presented at Nat'l conf. on Adv. in Sci. & Techn., March 24-25(2017), Indian Military Academy, Dehradun.

10. Study of ferroelectric properties of RbH_2AsO_4 crystal (**Deepali Raturi** & T.C. Upadhyay), Paper presented at Nat'l conf. on Recent Advances in Science and Technology, Uttaranchal college of Applied and life sciences, D. Dun, Feb.27-28(2017).
11. Phase transition in one-dimensional hydrogen bonded ferroelectric crystals (**Aanchal Rawat** & T.C. Upadhyay), Paper presented as poster at International conference on Aerosol, Air quality and climate change on Himalayan Region of Uttarakhand.
12. Study of phase transition in ammonium iron alum by using PLCM model (**Anubhuti Mamgain**& T.C. Upadhyay), Paper presented as poster at International conference on Aerosol, Air qualityand climate change on Himalayan Region of Uttarakhand.
13. Temperature dependence of ferroelectric and dielectric properties of TGSe crystal (**Arvind Kumar Rawat** & T.C. Upadhyay), Paper presented as poster at International conference on Aerosol, Air quality and climate change on Himalayan Region of Uttarakhand.
14. Study of ferroelectric phase transition in CsH_2AsO_4 crystal (**Deepali Raturi** & T.C. Upadhyay), Paper presented as poster at International conference on Aerosol, Air quality and climate change on Himalayan Region of Uttarakhand.
15. Study of structural phase transition and dielectric properties of TGS and CsH_2PO_4 ferroelectric crystals (**Naveen Kohli** & T.C. Upadhyay), Paper presented as poster at International conference on Aerosol, Air quality and climate change on Himalayan Region of Uttarakhand.
16. Ferroelectric behaviour of Triglycine selenate crystal (**Prabhat Chandra Khanduri** & T.C. Upadhyay), Paper presented as poster at International conference on Aerosol, Air quality and climate change on Himalayan Region of Uttarakhand.
17. Investigation of dielectric and ferroelectric properties of TGS crystal (**M. Iqbal** & T.C. Upadhyay), Int'l conf. on electron microscope and allied analytical techniques (EMAAT-2019), H.P. Univ. Shimla, June 7-9(2019).
18. Study of temperature dependent dielectric and ferroelectric properties of TGS crystal (**M. Iqbal** & T.C. Upadhyay), Nat'l conf. on recent advancement in natural products chemistry and nano-technology (RANPCN-2019), Chem., Dept., H.N.B.G.U., Srinagar, Sept.9-10(2019).
19. Theoretical study of temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent in TGS crystal (**M. Iqbal** & T.C. Upadhyay, 3rd Int'l conf. on Cond. Matter and applied physics, ICC-2019, Oct.14-15 (2019).
20. Study of Dielectric properties and thermal variation of Rochelle salt crystal (**B.K. Kandpal** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
21. Investigation of Dielectric and Ferroelectric properties of TGSe crystal (**A. Kumar Rawat** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
22. Study of ferroelectric phase transition and dielectric properties of one-dimensional hydrogen bonded crystals (**A. Rawat** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
23. Investigation of Dielectric properties of Triglycine Fluoberrylate crystal (**Prabhat Chandra Khanduri** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
24. Study of ferroelectric & dielectric properties of TGS & CDP crystals (**Naveen Kohli** & T.C. Upadhyay), Int conf on Material Science and Applications (ICMSAA-2019), 25-27 Nov.2019.
25. By using PLCM model variation of ferroelectric properties of ammonium iron alum along with temperature (**Anubhuti Mamgain** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
26. Investigation of ferroelectric transition in $PbHPO_4$ crystal (**Subodh Gairola** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
27. Study of ferroelectric and dielectric properties of Rochelle salt (RS) crystal (**M.I. Khan** & T.C. Upadhyay), Int conf on Material Science and Applications (ICMSAA-2019), 25-27 Nov.2019.
28. Study of ferroelectric & dielectric properties of potassium di-hydrogen phosphate (KDP) crystal (**Pawan Singh** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.
29. Investigation of dielectric properties of stannous chloride di-hydrate crystal (**Pramod Kumar Sati** & T.C. Upadhyay), Int'l conference on Material Science and Applications (ICMSAA-2019), 25-27 Nov. 2019.

30. Study of electric field effect on ferroelectric and dielectric properties of Rochelle salt crystal (**M.I. Khan** & T.C. Upadhyay), NCASM-2020, Dept., Appl. Sci., Chitkara Univ., Punjab, 24-25 Sept. 2020 (Oral).

31. Theoretical investigation of temperature and frequency dependent ferroelectric properties of Rochelle salt (**M.I. Khan** & T.C. Upadhyay), Int'l conf. on Adv. Mat. & Nanotechnology (AMN 2020), Phys. & Mat. Sci. Dept., Jaypee Inst. of Inf. Tech., Noida, 20-22 Feb. (2020) Poster.

32. Study of dielectric and ferroelectric properties of $PbHPO_4$ crystal (**M.I. Khan** & T.C. Upadhyay), 14th USS & T Cong. 2019-20, Dehradun 27-29 Feb. 2020 (Poster).

33. Study of ferroelectric transition and dielectric properties of KDP crystal (**Pawan Singh** & T.C. Upadhyay), Elect. Micro. & Apll. Analy. Techn.(EMAAT-2019), June 7-9 (2019), Physics Dept., HP Univ., Shimla.

34. Investigation of KDP and RDP crystals-Dielectric properties of model Hamiltonian and Green's function Technique (**Pawan Singh** & T.C. Upadhyay), Nat'l conf. on Adv. & Appl. Sci. & Math. (NCASM-2020), Sept. 24-25, 2020, Dept., Appl. Sci., Chitkara Univ., Punjab.

35. Temperature dependence of ferroelectric mode frequency, dielectric constant and loss tangent in KDP crystal (**Pawan Singh** & T.C. Upadhyay), Int'l conf. on Adv. Mat. & Techn. (AMN- 2020), 20-22 Feb. 2022, Dept. of Phys. & Mat. Sci., & Engg., JIIT, Noida.

36. Study of ferroelectric and dielectric properties of KDP crystal (**Pawan Singh** & T.C. Upadhyay), Int'l Conf. on Mat. Sci. & Appl. (ICMSAA-19), 25-27 Nov. 2019, Phys. Dept. H.N.B.G.U., Srinagar Garhwal (Poster).

37. Investigation of ferroelectric transition and dielectric properties in RDP crystal (**Pawan Singh** & T.C. Upadhyay), UCOST, Dehradun, Congress, 27-29 Feb. 2020.

38. Phenomenological explanation of Spontaneous Polarisation and onset ferroelectric phase transition in RbH_2AsO_4 crystal (**Kuldeep Kumar** & T.C. Upadhyay), ICAPSM, Coimbatore, Tamil Naidu, 12-13 Aug. 2021.

39. Explanation of onset ferroelectric phase transition and tangent delta in H-bonded Rubidium Di-hydrogen Phosphate crystal (**Kuldeep Kumar** & T.C. Upadhyay), H.N.B. Garhwal University & Maldevta, Dehradun (15-16 May 2021).

40. Forst order Ferroelectric Phase transition phenomenon in Alkali-Phosphate crystal by using Green's function approach (**Kuldeep Kumar** & T.C. Upadhyay), Int'l conf. on Recent Advances in Engineering Materials (ICRAEM 2022), 03-05 March 2022, Moodabidri, Karnataka, India.

41. Thermal dependence of dielectric constant and tangent loss in Rochelle Salt crystal (**Nitin Bahuguna** & T.C. Upadhyay), 2nd Int'l conf. on Aerosols, Air quality and climate change (AAC-2022), over Himalayan region of Uttarakhand, Nov.4-6, (2022) Phys. Dept., H.N.B.G.U., Srinagar Garhwal, As Poster.

42. Theory of Dielectric properties of Rochelle salt type classic ferroelectric crystals (Colemanite), (**B.K. Kandpal** & T.C. Upadhyay), 2nd Int'l conf. on Aerosols, Air quality and climate change (AAC-2022), over Himalayan region of Uttarakhand, Nov.4-6, (2022) Phys. Dept., H.N.B.G.U., Srinagar Garhwal, As Poster.

43. Thermal dependence of soft mode frequency, dielectric constant and tangent loss in Lead Hydrogen Phosphate (LHP) crystal (**Nitin Bahuguna** & T.C. Upadhyay), 4th Int'l Conf. on Recent Advance in Materials and Manufacturing (ICRAMM-2022) ,08-09 Dec. 2022, Erode, Tamil Naidu, India.

Orientation & Refresher Courses Attended-

- Attended orientation programme at Lucknow University, 4/03/1999 to 31/03/1999
- Refresher course at AMU, Aligarh, 10/04/2001 to 9/05/2001
- Refresher course at HP University, Shimla, 10/07/2001 to 4/08/2001

Membership of Academic Societies-

1. Indian Physics Association
2. Indian Association of Physics Teachers
3. Indian Science Congress Association
4. Institute of Theoretical Physics
5. International Disordered Systems Society

Convener/Co-Convener of few National/International Conferences/Events